

INNOVATIVE PLASMA TECHNOLOGIES



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INNOVATIVE PLASMA-BASED TECHNOLOGIES FOR NEW MULTIFUNCTIONAL COATINGS

IONICS is specialized in the development of industrial innovative surface treatments to reach new properties, enhanced durability and develop new materials. At Hannover Messe, the group along with its partners Materia Nova and AGC will present not less than three brand new technologies on the Wallonia booth: ionJET, a microwave based plasma torch; PLAMECO, plasma treatment for AM powders; and ionLAB, a fully functional R&D pilot, based on the HARDION industrial ion gun technology for surface treatment.

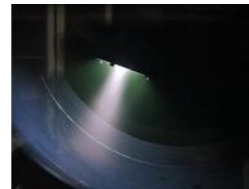


The ionJET is an atmospheric plasma torch based on a new flexible microwave technology. Unlike RF torches, the plasma is generated at the outlet of the torch. The active species directly interact with the substrates surface. The feeble flow of about 2 liters/min allows to use argon, helium and others more expensive gases for specific application without economic issues. Low powered torch (200w) combined with effective activated species enables the treatment of temperature sensitive and inert polymers like PTFE. Deposition processes are also under development using liquids, powders and wires.



The PLAMECO technology allows to treat and modify any micrometric powders using PVD and PECVD low pressure plasmas deposition processes. Composition fine tuning, new alloys with rare elements, core shells hybrid structure, nano structuration are reached for enhanced properties and processes using commercial low-cost powders. The fields of application are numerous: additive manufacturing, thermal spraying, technical sealing and contact, sintering processes, catalysis. An R&D scale functional equipment will be in demonstration. The industrial pilot will also be presented.

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IONICS has developed the HARDION industrial ion gun solution terminating with different technical and economic issues generally associated to the process. Enhance the surface properties of your material without any coatings and using an environmentally friendly technology. The innovation is supported by a Walloon initiative called WALIBEAM and several industrial majors in the fields of surface treatment of glass, metal and polymer are involved. A set of industrial dedicated pilot tools will be available as Key Enabling Technologies (KET) for industrial demonstration. A fully functional R&D pilot ionLAB will be presented on the booth.

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